Standard Operating Procedure for Communications Operations



FOR BLACKSTONE COUNTY MONTANA







Adopted June 2010



Interoperability Emergency Communications Plan Approval and Endorsement for Blackstone County

As the primary first responders in Blackstone County, we hereby attest to our full participation and support in the development of this plan; furthermore we hereby approve, accept and endorse the process and herein.

It is our intention to start implementation of the necessary steps to attain our desired communications goals with the understanding that this plan shall survive administration and department personnel changes and may be updated and modified as new technologies become available.

Blackstone County Commission Representative
By: James Smith
Signature
Date:
Blackstone County Emergency Services:
By: Robert Little
Signature
Date:
Blackstone County Sheriff's Office:
By: Sherriff Raymond Summers
Signature
Date:
Blackstone County Fire Department
By: Chief Dave Mattson
Signature
Date:
Blackstone County Emergency Medical Services
By: Linda Burns
Signature
Date:



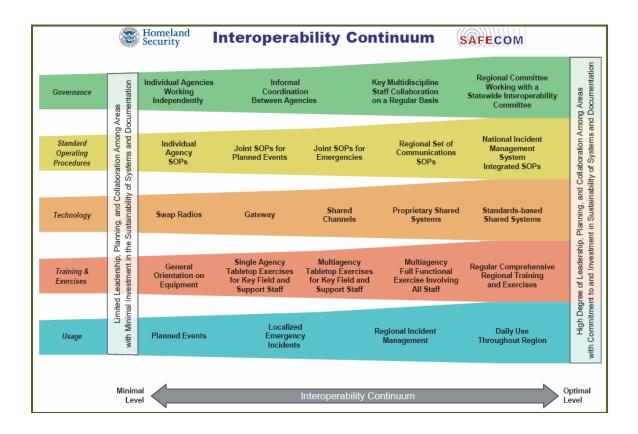
Plan Overview

This document establishes Interoperable Communications Standard Operations Procedure (SOP) for Blackstone County. <u>Blackstone County is a fictional county in the State of Montana and any reference to any factual place and or name is unintended. This SOP is designed to assist in the preparation of individual county communications SOPs within the State of Montana. The SOP is intended to document what interoperable communications resources are available within the County, who controls each resource, and what rules of use or operational procedures exist for the activation and deactivation of each resource.</u>

The creation of the SOP originated as a requirement of the Office for Domestic Preparedness 2005 UASI grant program. This TSOP serves as a tool to help Blackstone County achieve greater communications interoperability and further align itself with goals outlined by SAFECOM (Program of the Department of Homeland Security).

Interoperability Continuum Framework

SAFECOM recommends applying its Interoperability Continuum, shown below, as a comprehensive framework to address critical elements for planning and implementing statewide interoperability solutions. These elements include governance, standard operating procedures, technology, training and exercises, and usage of interoperable communications.





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1. Introduction

The purpose of this plan is to clearly identify the communication assets available to Blackstone County and define how those assets will be used during daily operations and emergency situations. Effective communications is critical for the safety of response personnel and the public. This plan outlines policies and procedures that will be followed by agencies using public safety communications for administrative and emergency situations.

Blackstone County is located in the central portion of Montana with a total area of 900 square miles or approximately 520,360 acres in total land area. The county is the most geologically diverse area in Montana, if not the Northwestern United States, It is bordered by Henderson, Cribb, Choto, Camron, Bridges, and St John's counties. Elevations range from 630 feet in the valley areas to 2,100 feet on the ridge tops.

The surface is generally rough and hilly, with ridges to the north and west; the east is rolling to hilly, and the south, hilly to broken. The estimated population as of 2009 was over 20,000. Interstate (I-69) crosses the county from north to south. Other main roadways are US 135, US 288, US 37 and SR 148 and 221. The county seat is located in Castle and towns in the county include: Baxter, Hobart, Album, and Magic.

This plan will outline a strategy for providing tactical (incident-based) interoperability solutions by identifying available resources, and establishing policies and procedures for the use of these resources.

2. Lead Contact Information

Lead Contact Information

a) Designation of Lead Agency for Plan.

Mr. Harry Boughton **Blackstone County Coordinator Emergency Services** P. O. 669 Castle, Montana, 559921 (406) 867-5309 b) Contact Information for Designated Primary Contact. For dispatch information contact: **Sheriff Raymond Summers Blackstone County** (406)867-4409 For the radio information contact: Mr. Robert Little **Blackstone County Coordinator Emergency Services** (406) 867-1189



Managers of Radio Systems within the County

a) Entities and users to be covered by the plan.

Blackstone County Sheriff's Office

Blackstone County Search and Rescue

Blackstone County Emergency Services

Blackstone County Road and Bridge

Blackstone County Fire Department

Blackstone County Emergency Medical Services

Blackstone Memorial Hospital 6

3. Service Area

Established September 27, 1885 with its County seat at Castle, Blackstone County was the last county in Montana to be created. Blackstone County encompasses a diverse landscape of irrigated valleys, lava fields, foothills, and mountains within its borders. Blackstone County is supported economically by two major industries: agriculture and natural gas exploration.

The total land area of Blackstone County is approximately 520,360 acres. Private lands comprise about 50% of that acreage. Roughly 10% of the county is included in State ownership (77,000 acres). The northwest corner of the County is in the Ft. Pucket Indian Reservation, Pubic lands, most of which are managed by the Compton National Forest, are concentrated in the mountain ranges of the eastern portion of the county. The County's Public Lands are generally leased for grazing, while virtually all private lands are used for crop production or grazing.

4. Plan Scope

The Coral Region Radio Communications Consortium (CR2C2) was established in 2005 to administer grant funds from the Department of Homeland Security to develop and implement a technologically advanced P25 Trunked Radio System across Montana. A new systematic communications Business Practice has been adopted for the County. The new radio system is utilized in conjunction with the Incident Command System (ICS) plan.

Upon its completion the Coral Region Interoperability Project will consist of 22 "trunked" VHF radio communication sites along our northern border with Canada. Each of these state of the art communication sites is equipped with backup battery power as well as a propane generator in the event of power failure. Additionally, each site is environmentally protected via redundant heating and cooling systems. Each trunked site is inter-connected by a digital microwave backbone, which provides wide-area coverage and the ability for seamless



roaming. This digital microwave ultimately connects all of the Coral Region trunked sites to the Master Control Site, which is located at the Peace Enforcement Complex in Braselton.

Each trunked radio site consists of a four-channel, VHF trunked radio system.

Along with the trunked sites, the current analog repeater systems will also be maintained on all three of the Blackstone County mountain top sites. These analog repeaters will be utilized for system access by public safety responders that do not have Trunking capable radios or those that may be outside the coverage area of a trunked site. These analog repeaters can be "patched" to a trunked talk group through the Blackstone County Sheriff's Office dispatch center, thereby allowing communication between a conventional radio user and a radio user on a trunked talk group.

Public safety responder subscriber units that are Trunking compatible will be configured for trunked system access as well as conventional system resources, such as local simplex channels, local and neighboring conventional repeaters and State of Montana mutual aid frequencies. Public safety responder subscriber units that are not capable of joining the trunked system will simply need to be reprogrammed to allow access to analog repeaters, thus providing system access to all users, as well as allowing for continued day to day operations to the user or agency.

In order to ensure that the system is available to as many users as possible and accessible when needed by a responder, simple common sense usage by all agencies is a necessity. By simply understanding and properly applying the basic principles of talk group functionality, ICS response protocols and conventional channel usage as stated below, each system user can do their part to ensure that the system operates at its highest level of efficiency. Users that do not comply will only unduly tie up limited system resources and cause excessive system busies. Agencies or specific users that do not abide by accepted system procedures might be restricted access to certain sites or specific system features, so that they do not degrade the system for other users.

5. Sheriff's Department Communications

- a. The Sheriff's Department has the following radio resources:
 - 10 Motorola XTL 5000 Trunking enabled radios
 - 15 Motorola XTS 2500 Trunking enabled radios
 - 10 Motorola XTS 1500 Trunking enabled radios
 - 8 Motorola Astro Spectra Trunking enabled radios

b. _____ Radio Programming

Zone A	Zone B	Zone C*	Zone D	Zone E



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^{*}Standardize zone per the Interoperability Montana Standard Operating Procedure

i. Frequency Assets

		110 9 7 1330 13		1	1	
Agency FCC License	Frequency	Call Sign	Repeater Location	Repeater	Issue Date	Responsible Individual

C. Communication Procedures

1.	Irun	king	Tall	\mathcal{L}	irou	ps
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- 2. __ SO D1 Sheriff Primary Dispatch Channel: Monitored by all units on a patrol basis;
- 3. __ SO AD Sheriff Admin Talk Group: Utilization by command staff for non-emergency communication and command and control functions.
- 4. __ SO OPS Sheriff Operation Talk Group: Primary talk group used when arriving on incident.
- 5. ETC.
- 6. ETC.

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I.	site	Trun	kıng	In	tero	рŀ	₹e	peat	ter



- 2. __ SO CON 1: 3. SO CON 2: 4. Mutual Aid Gold 5. Mutual Aid Silver 6. Mutual Aid Blue 7. Mutual Aid Black iii. Communication Procedures 1. Dispatch of Units: This will be done on __ 2. Incident Operations: Incident operations shall be maintained on and responding units will be directed to use this talk group by Dispatch or the Incident Commander after arriving on the scene.
 - 3. Alternative Incident Operations:
 - 4. Other Category
 - 5. Other Category
 - 6. Dispatch without Trunking System:
 - 7. Operations without Trunking System:
- c. Large-Scale Incident Procedures

6. Fire Department Communications

- a. The Fire Department has the following radio resources:
 - 20 Motorola XTL 5000 Trunking enabled radios
 - 5 Motorola XTS 2500 Trunking enabled radios
 - 6 Motorola XTS 1500 Trunking enabled radios
 - 10 Motorola Astro Spectra Trunking enabled radios

Radio Programming b.

Zone A	Zone B	Zone C*	Zone D	Zone E

^{*}Standardize zone per the Interoperability Montana Standard Operating Procedures



i. Frequency Assets

Agency FCC License	Frequency	Call Sign	Repeater Location	Repeater	Issue Date	Responsible Individual

C. Communication Procedures

•	T		CD 11	\sim
1.	Trun	kıng.	Talk	Groups
			_ ~~	

- 2. __ FD D1 Fire Department Primary Dispatch Channel: Monitored by all units on a patrol basis;
- 3. __ FD AD Fire Departments Admin Talk Group: Utilization by command staff for non-emergency communication and command and control functions.
- 4. __ FD OPS Fire Department's Operational Talk Group: Primary talk group used when arriving on incident.
- 5. ETC.
- 6. ETC.

ii. Conventional Channels

- 1. _____ site Trunking Interop Repeater:
- 2. __FD CON 1:
- 3. __ FD CON 2:
- 4. Mutual Aid Gold
- 5. Mutual Aid Silver
- 6. Mutual Aid Blue
- 7. Mutual Aid Black

iii. Communication Procedures

- 1. Dispatch of Units: This will be done on _____
- Incident Operations: Incident operations shall be maintained on
 _____ and responding units will be directed to use this talk
 group by Dispatch or the Incident Commander after arriving on the
 scene.
- 3. Alternative Incident Operations:
- 4. Other Category



- 5. Other Category
- 6. Dispatch without Trunking System:
- 7. Operations without Trunking System:
- c. Large-Scale Incident Procedures

7. Emergency Services Communications

- d. The Emergency Services Department (ESD) has the following radio resources:
 - 6 Motorola XTL 5000 Trunking enabled radios
 - 5 Motorola XTS 2500 Trunking enabled radios
 - 10 Motorola XTS 1500 Trunking enabled radios
 - 4 Motorola Astro Spectra Trunking enabled radios

e. _____ Radio Programming

Zone A	Zone B	Zone C*	Zone D	Zone E
Zone 11	Zone B	Zone e	Zone B	Zone E

^{*}Standardize zone per the Interoperability Montana Standard Operating Procedure

i. Frequency Assets

Agency FCC License	Frequency	Call Sign	Repeater Location	Repeater	Issue Date	Responsible Individual



C. Communication Procedures

- i. Trunking Talk Groups
 - 2. __ ESD D1 ESD Primary Dispatch Channel: Monitored by all units on a patrol basis;
 - ESD ESD Admin Talk Group: Utilization by command staff for non-emergency communication and command and control functions.
 - 4. __ESD-OPS ESD Operational Talk Group: Primary talk group used when arriving on incident.
 - 5. ETC.
 - 6. ETC.
- ii. Conventional Channels
 - 1. _____ site Trunking Interop Repeater:
 - 2. ESD CON 1:
 - 3. __ ESD CON 2:
 - 4. Mutual Aid Gold
 - 5. Mutual Aid Silver
 - 6. Mutual Aid Blue
 - 7. Mutual Aid Black
- iii. Communication Procedures
 - 1. Dispatch of Units: This will be done on _____
 - Incident Operations: Incident operations shall be maintained on
 _____ and responding units will be directed to use this talk
 group by Dispatch or the Incident Commander after arriving on the
 scene.
 - 3. Alternative Incident Operations:
 - 4. Other Category
 - 5. Other Category
 - 6. Dispatch without Trunking System:
 - 7. Operations without Trunking System:
- f. Large-Scale Incident Procedures

8. Emergency Medical Services Communications

- g. The Emergency Medical Services Department (EMSD) has the following radio resources:
 - 12 Motorola XTL 5000 Trunking enabled radios
 - 8 Motorola XTS 2500 Trunking enabled radios
 - 5 Motorola XTS 1500 Trunking enabled radios
 - 6 Motorola Astro Spectra Trunking enabled radios



h. _____ Radio Programming

Zone A	Zone B	Zone C*	Zone D	Zone E

^{*}Standardize zone per the Interoperability Montana Standard Operating Procedure

i. Frequency Assets

Agency FCC License	Frequency	Call Sign	Repeater Location	Repeater	Issue Date	Responsible Individual

C. Communication Procedures

- i. Trunking Talk Groups
 - 2. __ EMSD D1 EMSD Primary Dispatch Channel: Monitored by all units on a patrol basis;



- 3. __ EMSD AD EMSD Admin Talk Group: Utilization by command staff for non-emergency communication and command and control functions.
- 4. __ EMSD OPS EMSD Operational Talk Group: Primary talk group used when arriving on incident.
- 5. ETC.
- 6. ETC.
- ii. Conventional Channels
 - 1. _____ site Trunking Interop Repeater:
 - 2. __ EMSD CON 1:
 - 3. __ EMSD CON 2:
 - 4. Mutual Aid Gold
 - 5. Mutual Aid Silver
 - 6. Mutual Aid Blue
 - 7. Mutual Aid Black
- iii. Communication Procedures
 - 1. Dispatch of Units: This will be done on _____
 - Incident Operations: Incident operations shall be maintained on
 _____ and responding units will be directed to use this talk
 group by Dispatch or the Incident Commander after arriving on the
 scene.
 - 3. Alternative Incident Operations:
 - 4. Other Category
 - 5. Other Category
 - 6. Dispatch without Trunking System:
 - 7. Operations without Trunking System:
- i. Large-Scale Incident Procedures

9. Dispatch Procedures

Day to Day Communications; Communicating with Dispatch

I. Simple Call Description

No Activity:

- If there are no pertinent active calls or incidents, no active unit-to-unit meetings, all field units must stay on their primary Dispatch talk group. Monitoring of non-essential system activity by any field unit is discouraged and prohibited.
- 1. Call Initiation Steps (Dispatch to Law Field units)
- First Action: Dispatch initiates the call verbally over the Dispatch (D1) talk group to expected responding units and individuals, utilizing their alias unit ID.
- Second Action: Responding field units acknowledge verbally with their alias unit ID, that they are enroute the scene or incident on the dispatch talk group directly to Dispatch.
- Third Action: Dispatch will enter into CAD the status activity and time for each responding unit. Dispatch can acknowledge completed data entry and time to the responding unit if requested.



- 2. Call Initiation Steps (Dispatch to Fire Field Units)
- First Action: Dispatch initiates the call by sending out a page to applicable units and individuals.
- Second Action: Field units and individuals respond to and acknowledge the page verbally on their dispatch talk group directly to Dispatch.
- Third Action: Responding field units send a status-message to Dispatch that they are enroute the scene or incident.
- Fourth Action: Dispatch will enter into CAD the status activity and time for each responding unit.

3. Call Initiation Steps (All Field Units to Dispatch)

- First Action: Field unit initiates the call verbally over the Dispatch talk group to Dispatch operator, identifying his alias unit ID.
- Second Action: Dispatch will verbally acknowledge the calling unit with their alias unit ID. If applicable, Dispatch will also advise the calling unit of any situation or incident in progress that would need to limit or delay the calling field unit from completing their request.
- Third Action: Field unit completes their request or message to Dispatch.
- Fourth Action: Dispatch acknowledges the field unit by repeating their alias unit ID responds to their request or message and then completes the exchange with the time.

4. <u>Dispatch Intermediate Communication Calls</u>

- Dispatch can verbally send updated call or incident information directly to responding units over the chosen active response talk group, to any series of chosen response talk groups using the console Multi-Select function, and/or send an informational alphanumeric page to equipped applicable units.
- Dispatch can manually patch non-trunked (conventional) users to an incident talk group if requested by the incident commander.

10. Interoperable Communication Procedures

Dispatch will coordinate with the on-scene incident commander to efficiently manage the current channels within the covered jurisdiction. The Incident Command System (ICS) would be utilized to manage the occurring incident. Any additional channels or talk groups could be requested and utilized by the incident commander or dispatch. If a multiagency response to an incident in Blackstone County involves other counties or external agencies, they would use Blackstone County's emergency services channel frequency as the tactical frequency for that incident. Once the incident is cleared, all agencies would return to their usual frequency use.



11. Policy on Encryption Use

The decision to use encryption depends primarily upon sensitivity of information content and the situation at hand. Encryption primarily blocks the public from monitoring personal, sensitive or potentially compromising information. Secondarily, encryption prevents interception of messages and critical decision-making processes at different agency levels. The county decided on the following five (5) level encryption key hierarchies:

Agency	Common	TG's		
Name	Key	Usage		
All Field				
Units	A	Dispate	h, Admin, Shared/Common function, Patched	
All Unit		OPS,		
Leaders	В	TAC		
All				
Command				
Units	C	Inciden	t/Command, Drug Task Force, SWAT, Coroner	
		EMS		
EMS	D	only		
Non Public				
Safety	E	Non Public Safety		

Since the trunked system is already P25 Astro Digital IMBE protocol, switching to encryption mode causes no degradation to audio quality or radio coverage. There is one caution for radios equipped with encryption: A field unit receiving a call from another encrypted radio or dispatch yields no audio queue whether the call originated in clear or encrypted mode. As such, it is up to the receiving unit to look at their display for indication that the call was encrypted and to switch over to the appropriate mode

12. Training and Testing

Blackstone County has designated two individuals (Ron Barber, Sheriff's Office, and Mike Winstrom, County Fire) to act as a primary and a backup Communications Unit Leader (COML) within the county. Both individuals will be required to complete specific training courses in order to be considered qualified. These courses address the National Incident Management System, the Incident Command System, and the National Response Plan.

The Communications Unit Leader (COML) is the NIMS/ICS position with overall responsibility for incident communications. As with all ICS positions, the Unit Leader is expected to be capable of performing all tasks, including Radio Operator and Communications Technician. The USDHS Office of Grants and Training published Communications Unit Leader Core Competencies in March 2006, which outlines 26 tasks and 19 competencies for the COML

Emergency Communications Exercise/Drills will be conducted annually by the Local Emergency Planning Committee (LEPC) in conjunction with the DES. During this exercise the radio system and the operational procedures as set forth in this SOP will be validated by



the COML and the DES. A written summary of the ability to respond and the ability to use the SOP will be reported to the commission when completed by the DES.

13. Plan Updates and Responsibility

Maintenance of SOP

- The County DES will have the responsibility for reviewing and updating the SOP.
- The plan is to be reviewed or updated Bi- annually. (July and January)
- Requests for modifications to this document should be submitted to Blackstone County DES.
- Agencies participating in this plan will be formally notified within 30 days of any approved modifications or additions to this Blackstone County SOP.



Attachment A

Trunking Features and Definitions

- a) <u>Trunking</u> is a computer-controlled radio system, in which individual radio channels are grouped together as a common resource for all system users. Each radio request to place a call on the system is directed to an unused channel by the main computer. Progress and assignment of call resources is transparent to the radio user.
- b) <u>"Talk group"</u> is often used synonymously with "channel". However, a "channel" is actually a specific radio frequency (radio channel), whereas a "talk group" is actually a computer-generated partition. A channel always operates on a specific radio channel, whereas a talk group can be assigned to any radio channel used by the system. The underlying channel-changing process for talk group activity is transparent to the user.
- c) A "mode" commonly refers to the displayed or selector switch positions on a subscriber radio. The key point to remember is that a "mode" can represent a collection of parameters. For instance, mode 1 on the radio might represent a conventional simplex "channel", with a certain receive / transmit squelch code combination (PL), a certain transmitter power level, and a modulation type... such as analog or P25 digital. Therefore, a "channel" might only represent a small portion of the functions that make up the contents of a "mode".
- d) For Blackstone County trunked talk groups and conventional channels are grouped by function as follows:
 - i) <u>Dispatch (D1) talk groups:</u> For dispatching to or from responding field units, no unit-to-unit side bars allowed.
 - ii) OPS or TAC talk groups: For individual agency operational primary radio traffic; a key agency working talk group. Law agencies opted to use the term "OPS", whereas Fire agencies opted to use the term "TAC".
 - iii) <u>ADM or Administrative talk groups:</u> Non operational secondary radio traffic, and for intra-agency unit-to-unit meetings. ADM talk groups are generally for exclusive use of the particular agency, and are not included in the programming lists for other agencies. However, Dispatch is capable of operating on all ADM talk groups if needed.
 - iv) <u>LE or law enforcement shared talk groups or channels:</u> Shared trunked talkgroups and/or conventional repeater or simplex channels for interagency law OPS radio traffic.
 - v) <u>Incident INC / Command talk groups:</u> Interagency and multiple agency responses and incidents. For everyday incidents, but becomes a command and coordination talkgroup for large scale incidents.
 - vi) <u>Technical Services and Test talk groups:</u> For maintenance and testing and system manager operations



- vii) Conventional Repeaters and simplex channels: local city, local or adjacent county, regional, and statewide radio channels for simplex (talk around) and/or repeated (repeater) incident traffic, interoperability, and/or Mutual Aid purposes.
- e) A "zone" represents a geographical region covered by a Smart Zone system. However, when referring to programming a subscriber radio, a "zone" usually represents a group or "bank" of up to 16 talk groups.
- f) When a radio successfully registers itself on the system and becomes associated with a trunked radio site, it becomes affiliated (active) on the system.
- g) "Aliases" are friendly alphanumeric names given to radios or units in place of radio identification numbers. This can also refer to any cross-representation of data to a more understandable written form. Portable aliases can be identified by operator proper names or badge numbers, since radios are normally assigned to individuals. Mobile-mounted radios will be identified by vehicular unit numbers, especially since different operators share the same vehicle across multiple shifts and possible locations.
 - (1) Trunking features and functionality that may be utilized by the response agencies covered by this plan include:
- h) <u>Call Alert:</u> Dispatch or unit to unit alert notification with aliases. Any intra-agency call alert is notification to both units to meet on their assigned ADMIN talk group. Any interagency call alert is notification to both units to meet on the CALERT talk group.
- i) <u>Status-messaging:</u> Field unit radios send pre-defined status messages to dispatch console, which will appear on the operator activity logs. Dispatchers will still have to manually input/update status/message information into CAD for each incident. Most system subscriber radios include status-messaging capability. However, only selected mobile units include a simplified one button status/message control head.
 - i) Typical status-message aliases:
 - (1) Enroute
 - (2) Arrived on Scene
 - (3) Clear
 - (4) Available
- j) <u>Emergency alarm & call:</u> Tactical voice channel with silent and/or Dispatch acknowledgement of individual unit alarms. A user who generates an alarm will stay on the current talk group (tactical), and upon pushing the radio PTT, the initiating unit will take control of that talk group for 30 seconds. Law Enforcement agencies opted for silent alarm, meaning that the initiating radio makes no visible indication that an alarm has occurred. Fire agencies opted for audible alarm with dispatch console acknowledgement.
 - i) All alarms must be acknowledged by any dispatch operator positions capable of selecting or monitoring applicable subscriber units talk groups.
- k) Roaming: Site to site automatic registration and affiliation with preferences. Each talk group has been assigned system sites resource preferences, based upon expected areas of



operations and agency requirements. Default values for signal strength thresholds and filter delays will be used.

- 1) System wide call routing, user registration, and talk group priority levels: The Smart Zone computer overlay controls system wide routing and assignment of all voice channel resources, including data processing for Call Alert, Emergency Alarm functions, and all system wide Trunking functions. Each talk group type can have a different priority level, such that if the system were busy, call resource assignment is based upon a pre-assigned priority level, of up to 10 levels. For example, emergency calls are handled as priority 1, Multi-group calls as priority 2, dispatch talk group calls as priority 3, tactical talk group calls as priority 5, administrative talk group calls as priority 7, testing / maintenance talk group calls as priority 9, and unassigned talk groups as priority 10.
- m) Wide area and site Trunking: Wide area Smart Zone Trunking is the normal mode of operation. In case of critical microwave link failures or main system computer failure, the overall trunked system will revert to "site Trunking" mode. In this mode, all of the system remote sites remain in Trunking mode, but they become standalone in operation. User radios already registered onto a site will normally stay there. However, subscriber radios are capable of being manually forced to specific system remote sites, but applicable Smart Zone feature sets are then compromised; this feature should be reserved only for critical communications needs in the event of back up to site Trunking mode.
- n) <u>Fail-soft:</u> This is the lowest level of system back-up capability, for which system radios will automatically revert to pre-determined site and channel assignments and maintain conventional system communications with common users and agencies on trunked system repeater channels. Keep in mind that the hierarchy of internal programming for trunked radios is to stay trunked; such that if a Fail-soft situation occurs, the radio will want to hunt for a site that is still in Trunking mode.
- o) <u>Multi-group calls:</u> This is a specialized talk group for Dispatch or authorized subscriber radios to initiate group calls to entire agencies at the same time. Multi-group Calls are prioritized on an "All start" basis, meaning that the call won't begin until a path is open to all active receiving units without ruthlessly pre-empting a transmission in progress. Four Multi-group Call talk groups have been identified initially:
 - i) MGCSAR = All Search & Rescue;
 - ii) MGCHFD = All Helena Fire;
 - iii) MGCRF = All Rural Fire;
 - iv) MGCGSD = All Dept. of Administration
- p) <u>Private calls:</u> Unit to unit private conversation capability; this feature disallowed until system resources grow to handle the additional traffic load.
- q) <u>Secure voice:</u> Both console and individual units have encryption capabilities; some field units are also capable of multiple key codes. Common key codes have been grouped and assigned as follows:
 - i) Key 1 = All field units;



- ii) Key 2 = Unit Leaders;
- iii) Key 3 = Command Units;
- iv) Key 4 = EMS;
- v) Key 5 = Non Public Safety
- r) <u>Selective radio inhibit:</u> This is a Radio Dispatch Management (RDM) feature which cancels transmit and receive functions of a radio unit over the air (assuming the radio is turned on and in range of the system.) In particular, a stolen radio can be disabled and rendered useless.
- s) <u>Interoperability/patching:</u> This summarizes interfacing of resources via trunked-to-trunked and trunked-to-conventional patching, and can utilize permanent patching via a Console Electronics Bank (CEB), dispatch operator initiated temporary patches, and/or external hardware patching devices such as LYRIX.
- t) <u>System Air traffic and historical reports records:</u> This feature stores system operational data and can organize it and report system traffic and utilization in a number of useful ways.
- u) <u>System RF resources:</u> No system radio channel resources are used if no user radios are affiliated to operate on a talk group. Only sites with active units affiliated on them will carry traffic. No system remote sites will be considered off limits to trunked user radios.
- v) Trunked and Conventional Scan: A scanning radio normally can only receive trunked talk groups that are affiliated at the same site it is affiliated at. Conventional scan can receive any channel in its list. Priority monitor allows a scanning radio to switch to the priority talk group/channel even if scan halts for normal traffic. However, if a radio scans both conventional channels and trunked talk groups together, the priority scan/monitor feature is non-functional. Units will not de-register from the trunked system if conventional channels are included in the scan list.
 - i) To prevent user radios from accidentally talking back to a just-scanned channel or talk group, the hang time hold timer is set to zero seconds (0s).